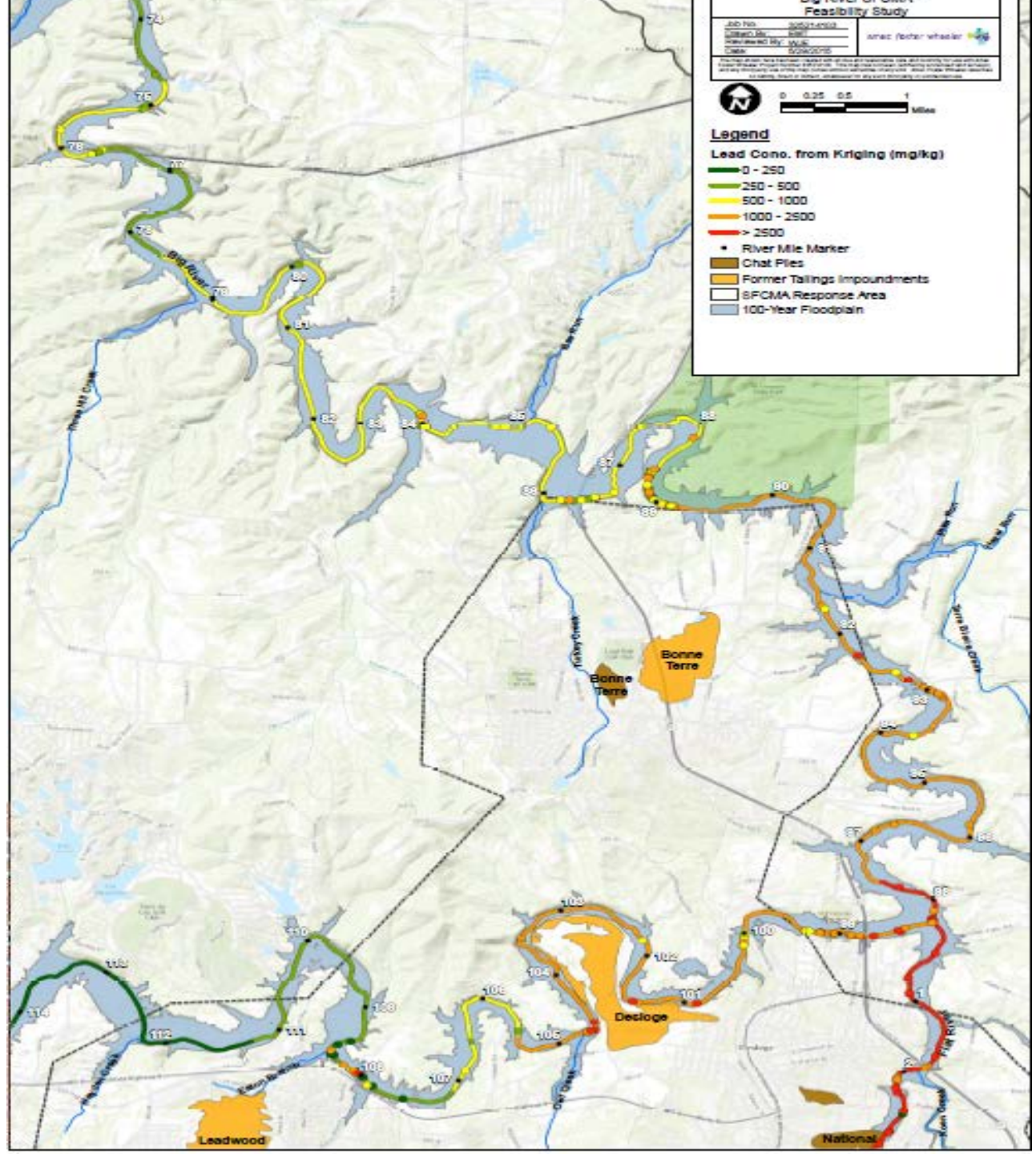
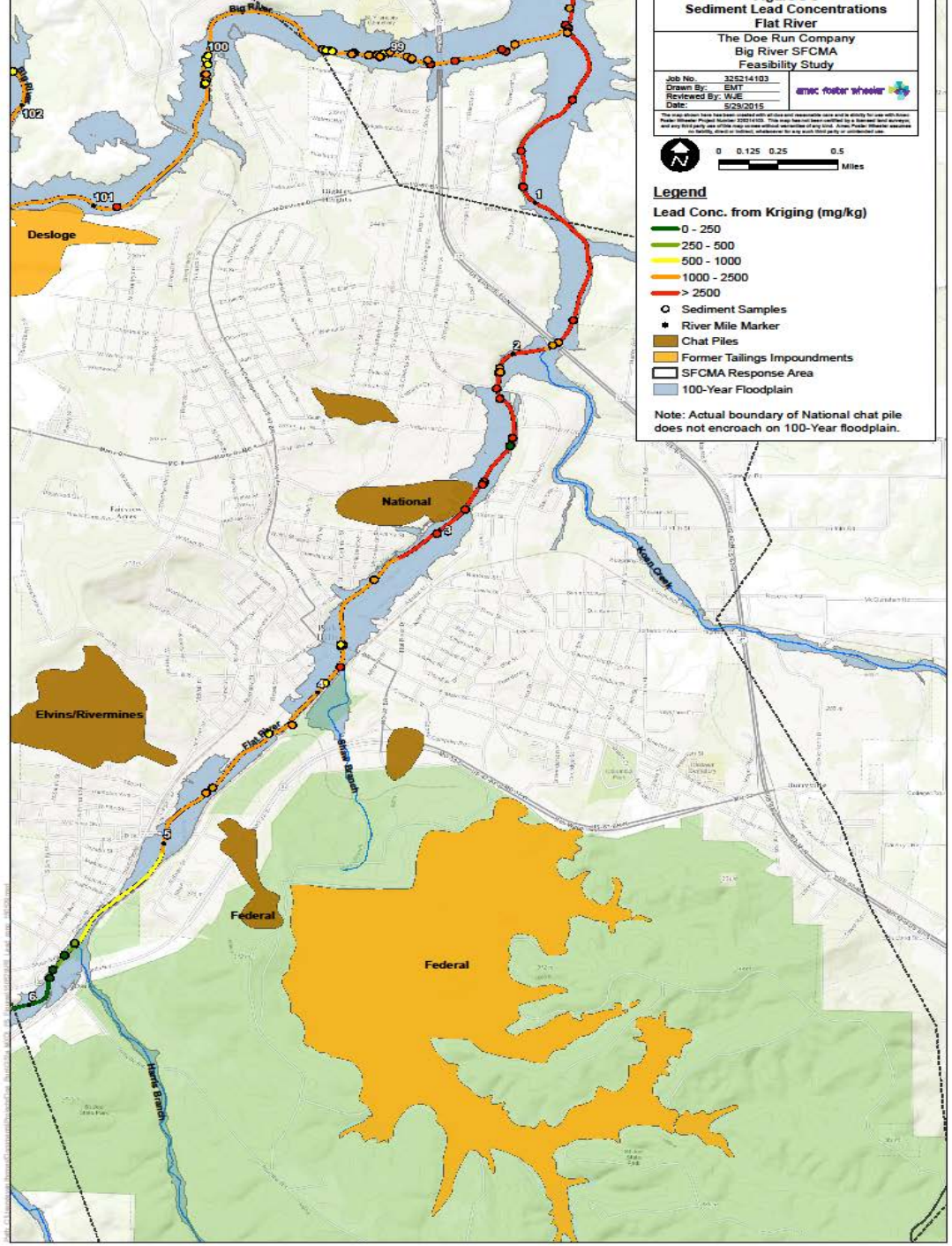
Plan moving forward for BR OU-2 FS

General Approach

- Address Big River Floodplain in the upper reaches, using an interim approach to focus on the residual impacts near the source areas first.
- This would include Big River from reach 109 to 98 (Leadwood to the confluence with Flat River).
- Flat River from reach 6 to 0 (Elvins to the confluence with Big River)
- Monitor sediment/surface water for up to 3 years after initial action to determine if future actions are required for these reaches and further downstream.


Feasibility Study
0 0.25 0.5 1
Miles
Legend
Lead Conc. from Kriging (mg/kg)
0 - 250
250 - 500
500 - 1000
1000 - 2500
> 2500
River Mile Marker
Chat Piles
Former Tailings Impoundments
SFCMA Response Area
100-Year Floodplain
Bonne Terre
Bonne Terre
Desloge
Leadwood
National


Sediment Lead Concentrations
Flat River
The Doe Run Company
Big River SFCMA
Feasibility Study
Job No. 325214103
Drawn By: EMT
Reviewed By: WJE
Date: 5/29/2015
amec foster wheeler
0 0.125 0.25 0.5
Miles
Legend
Lead Conc. from Kriging (mg/kg)
0 - 250
250 - 500
500 - 1000
1000 - 2500
> 2500
Sediment Samples
River Mile Marker
Chat Piles
Former Tailings Impoundments
SFCMA Response Area
100-Year Floodplain
Note: Actual boundary of National chat pile does not encroach on 100-Year floodplain.
Big River
Desloge
National
Elvins/Rivermines
Federal
Federal
Flat River
Joan Creek
Harris Branch
100
99
102
101
1
2
3
4
5
6

Specific items that will be screened for these reaches

- Floodplain and bank stabilization in areas that are identified as unstable.
  - Requires additional assessment/sampling
- Focused removal/stabilization in areas that are considered “time critical”. This is based on the toxicity data from PRP, where it shows that anything in the 800-1000ppm range has a significant negative impact on Hyallela survival.
- Operation of existing trap located at Big River/Flat River Confluence
- Installation/operation of two additional traps to help slow the movement of bed lead sediment to downstream locations.
  - One located downstream of Leadwood at the Bonehole low-head dam. Estimate of 63,000 cy of bedload sediment in this reach.
  - One located either at St. Francois State Park (below 5 source areas) or near Mill Creek confluence (below 6 source areas). This will be determined by site visit with Respondent, DNR and USACE.

Screening alternatives cont.

- Focused sediment removal in Flat River
- Focused floodplain removal/stabilization in Flat River
- Monitor traps after significant flood events to determine path forward
  - Continue to clean out traps after significant rainfall. Use the Desloge stream gage to assist
  - If traps start to accumulate clean material, remediation of the traps will stop.
  - Future actions could be based on more sensitive toxicity assessment endpoints (growth and reproduction of Hyallela).